Claims

1. A cutting machine for organic plant materials,
especially for tobacco, comprising a frame and a cutterhead
mounted in the frame, the cutterhead being in the form of a
drum having cutting knives symmetrically arranged on its
perimeter surface, the cutterhead being arranged on a drive
shaft driven by a belt transmission, the shaft being coupled
by a coupling mechanism with the main worm gear which is
connected, by means of an articulated shaft and a conical
gear, to a driving wheel, the wheel, by means of a driving
chain, driving chain wheels mounted on knife extension
rollers, the rollers directly driving the knife extension
arrangement through another subsequent worm gear, is
characterised in that the cutterhead comprises at least two
separate knife extension arrangements (10, 10a) arranged
alternately to each other below the perimeter surface of the
cutterhead drum and actuated separately, preferably by two
separate slidable coupling subassemblies (17, 17a) co-

operating with corresponding two main worm gears (2, 2a) arranged on both sides of the cutterhead, each of the two knife extension arrangements (10, 10a) being connected to the corresponding cutting knives (16, 18) and equipped with a separate electric driving mechanism comprising an electric motor (1, 1a), revolutions of which being controlled by means of an external signal independent of parameters of the cutterhead drum motion, the signal being transmitted and adjusted by electric motors (1, 1a) by means of an electric signal specifying the required extension rate of the appropriate knives set, the motors (1, 1a) being arranged axially symmetrically on both sides of the drive shaft (15).

2. A cutting machine according to claim 1 characterised in that the cutting knives (16, 18) are grouped into at least two separate functional sets of the cutting knives, linked with the corresponding knife extension arrangements (10, 10a) by means of two driving chains (6, 6a) placed on both sides of the cutterhead drum, the successive cutting knives (16, 18) in these two functional sets being arranged alternately to each other along the perimeter surface of the cutterhead above the corresponding knife extension arrangement (10, 10a), and, moreover, each separate functional cutting knives set (16, 18) comprise $2^{|n|}$ single cutting knives (16, 18), where $|n|$ denotes the absolute value of an integer number.